

***REMARKS***

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

Claims 1, 12, 17 and 21 are currently being amended. After amending the claims as set forth above, claims 1-24 are now pending in this application.

**Rejection under 35 U.S.C. 102(b)**

In the Office Action, Claims 1-24 were rejected under 35 U.S.C. 102(b) as being anticipated by Liebmann (U.S. Patent No. 6,057,063). Applicants respectfully traverse the rejection. Liebmann fails to disclose, suggest, or teach the claimed invention as recited in claims 1-24, as amended.

The independent claims, Claims 1, 12, and 17, have been amended to more clearly define what the Applicants mean by the claimed “expanding the identified edges.”

As amended, claim 1 recites:

expanding the identified edges outwardly and inwardly to define a narrow line along the edges of the first phase region

As amended, Claim 12 recites:

constructing a boundary region along edges of the first phase regions to form a chrome border by expanding the edges outwardly and inwardly

As amended, Claim 17 recites:

establishing a boundary around defined edges of the first phase areas by expanding the defined areas outwardly and inwardly

The present application states:

In an exemplary embodiment, chrome boundary 430 is formed by identifying edges of phase 180 region 410, expanding these edges outward and inward to define a narrow line, and forming chrome in the narrow line. Chrome boundary 430 can have a width of approximately the minimum gate width dimension or the width between phase 0 and phase 180 regions where the critical gates are formed. Alternatively, chrome boundary 430 can be generated by considering the phase 180 data, oversizing and undersizing the data and taking the difference.

(Present application, Paragraph [0039], emphasis added.)

In contrast, Liebmann creates generic phase regions on opposite sides of a feature by creating shapes by expanding, or projecting, edges outwardly into polygons. Liebmann specifically states:

Once the feature edges have been located, the process of the present invention derives a preliminary set of generic or colorless phase shapes by outwardly projecting the feature edges by a typical amount.

(Liebmann, Col. 7, lines 1-4, emphasis added.)

Liebmann does not suggest or teach expanding edges outwardly and inwardly. There is no suggestion in any of the embodiments of anything other than expanding outwardly. Liebmann states:

The amount that the feature edges may be projected outwardly may vary depending upon the particular embodiment. According to one embodiment, the feature edges are projected outward by an amount defined by the following formula:

$$K \times \lambda / NA.$$

In this formula,  $\lambda$  represents the wavelength of the radiation used to expose the material, such as photoresist, in forming the particular structure involved. NA represents the numerical aperture of the projection optics utilized in the system transmitting the radiation to the mask and the structure being created k is as previously defined with a value of from about 0.5 to about 0.8, less than about 0.6 or from about 0.5 to about 1.

According to other embodiments, the phase shapes may be projected outwardly by a different amount. Typically, the phase shapes may be projected out by an amount of from about  $0.5\lambda./NA$  to about  $1\lambda./NA$ .

(Col. 7, lines 22-45, emphasis added.)

Anticipation of a claim by a prior art reference requires that the reference disclose each and every limitation in the claim. Liebmann fails to disclose “expanding the identified edges outwardly and inwardly” recited by the claims. Accordingly, the rejection under 35 U.S.C. §102(e) of claims 1-24 based on Liebmann cannot be properly maintained. Applicants respectfully request the withdrawal of the rejection.

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 50-2350. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 50-2350. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 50-2350.

Respectfully submitted,

By 

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